10-30-1997

Washington University Record, October 30, 1997

Record
WASHINGTON UNIVERSITY IN ST. LOUIS
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Margaret Thatcher on campus

Former British Prime Minister Margaret Thatcher shares Washington University Chancellor Mark S. Wrighton's umbrella Friday, Oct. 24, following a roundtable discussion with students. With Thatcher and Wrighton are Student Union President Peter Steffan and Laura Ponte, senior director of alumni relations.

Olin Hatchery brings business ideas to life

True to its name, the Olin Hatchery is a hotbed of entrepreneurial activity. And it is about to see its first progeny — a new business set to open within the month.

Through the John M. Olin School of Business' entrepreneurship course, students create business plans — either for their own business ideas or for the ideas of outside entrepreneurs accepted into the program. The plan is an analysis of what it would take to turn the business idea into reality. Each participating outside entrepreneur pays a $2,500 fee and gets a fully developed custom business plan. Students get practical experience.

"We want to give students a real world experience outside of an academic experience," said Russell Roberts, Ph.D., director of the Management Center at the business school and creator of the Hatchery concept. "This is a chance for students to really get their hands dirty."

The course, offered only in the spring semester, is open to juniors, seniors and students in the Master of Business Administration Program. For three and a half months, students formulate plans, usually in teams of three or four, all the while tapping expert resources, including faculty and business practitioners. Each plan includes a company description, competitive analysis, marketing plan, financial projections, and capital needs and uses.

At the end of the semester, students present their plans to the Hatchery Advisory Board — a panel of investors, financial advisers, marketing experts and entrepreneurs.

Students can literally capitalize on the opportunity because panel members might decide to invest in the ideas presented.

Just ask Andrew Rubin, BSBA '98 and president of The Ice King Inc. His idea for a company selling a gourmet version of a snow cone took flight through the Hatchery, and in November, he will open his first site — a free-standing kiosk in Mid-Rivers Mall in St. Peters.

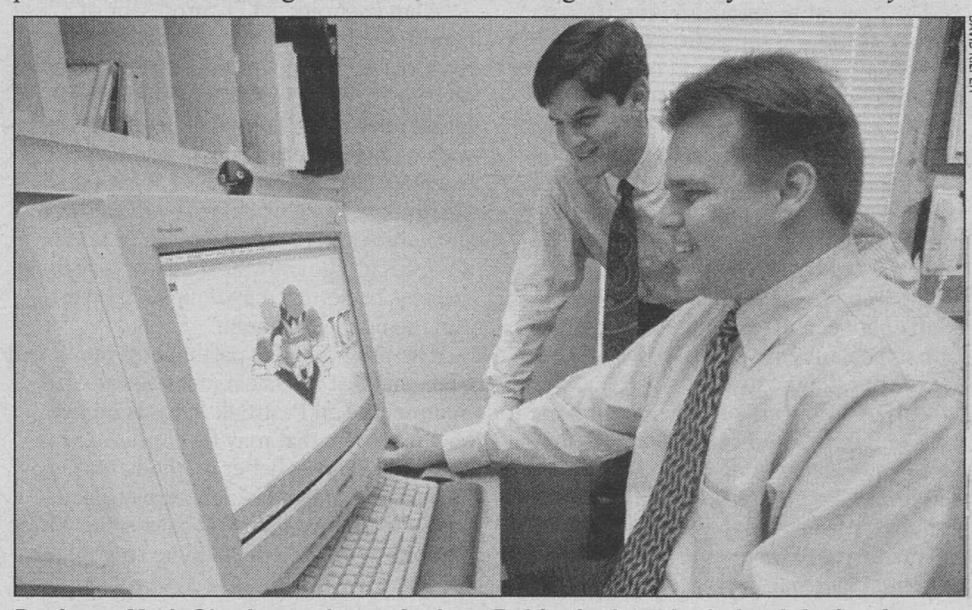
Rubin, who worked solo, was matched with Hatchery mentor Maxine Clark, a Hatchery Advisory Board member and chief executive officer of Build-A-Bear Workshop. An entrepreneur herself, she provided guidance and investment. She was so impressed with his idea that she arranged for him to use part of her office space and became an investor in his company. Also investing in the company, now capitalized at about $200,000, is another Advisory Board member, Roger Weston, GB '67, chairman, president and chief executive officer of GreatBanc Inc., in Chicago. The entire board awarded Rubin's presentation first prize — the Olin Cup — in the undergraduate division.

"So many people have invested in my business in so many ways," said Rubin.

Along with her other contributions, Maxine Clark introduced Rubin at the local advertising agency George M. Purviance Marketing Communications. The agency's Mark Oberkram, FA '96, helped create The Ice King logo. "In our 30 years in business, my wife, Terri, and I have always had a heart for burgeoning companies," said George Purviance, FA '62, the firm's creative director. "Andrew has the spit and vinegar to make his company work."

Sixteen companies have applied to be in this year's Hatchery program, and, on Nov. 12, there will be an exposition to help match outside entrepreneurs with students.

Chances are there will be lots of good business ideas just waiting to hatch — through the Hatchery. — *Nancy Belt*



Designer Mark Oberkram shows Andrew Rubin the logo he helped design for Rubin's The Ice King Inc., which opens next month at Mid-Rivers Mall.

Transportation group works to cut single-person auto use

Washington University's Transportation Management Association (TMA) is working to alleviate congestion on the area's overburdened roadways and mitigate St. Louis' air pollution problem.

The TMA, located on the Medical Campus, bolsters the use of car-pooling, mass transit and other forms of ride-sharing among School of Medicine faculty and staff.

"The mission is to reduce the number of work-related single-occupancy vehicle trips to and from the Medical Center by encouraging employees to rideshare, whether that be by car-pooling, van-pooling, biking, walking, bus or taking MetroLink — which is one of the most environmentally friendly means of transportation in terms of air quality," said Susan Dreier, TMA coordinator.

Funded by a federal grant, the TMA, established in spring 1996, offers several transportation alternatives. They provide vans for van-pooling, offer Bi-State Development Agency bus schedules, map out bus routes for users and encourage the use of the MetroLink light-rail system. They also are working to create bicycle storage improvements on the Medical Campus.

A number of TMA incentive programs help attract users. Registered car-poolers receive parking discounts and preferential parking spots. The Guaranteed Ride Home Program ensures that car- and van-poolers who must leave work early or stay late receive as many as six free cab or rental car rides home each year. A plan to expand that program to mass transit users should be up and running in a few months. And each month, seven raffles are held in which registered TMA participants can win prizes, such as St. Louis Cardinals baseball tickets and gift certificates to local eateries.

The program currently has 200 regis-

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In this issue ...

New panel explores support for research

Theodore J. Cicero, Ph.D., vice chancellor for research, has appointed a steering committee of 13 faculty members and five administrators to work with him in evaluating ways that grants management and research support practices can best serve the University's faculty.

Coopers & Lybrand's Higher Education Unit, a consulting firm that has evaluated grants management processes for several research universities, has been brought in by the steering committee to conduct the review. Coopers & Lybrand consultants will canvas the faculty regarding their needs and expectations in all administrative areas of research support.

"The competition for federal and private research funds is extremely intense," Cicero explained. "The number of grant applications filed by our faculty members is up considerably and will continue to grow. In addition, many funding agencies such as the National Institutes of Health have announced their plans to move to on-line applications and grant-management systems within the next three years.

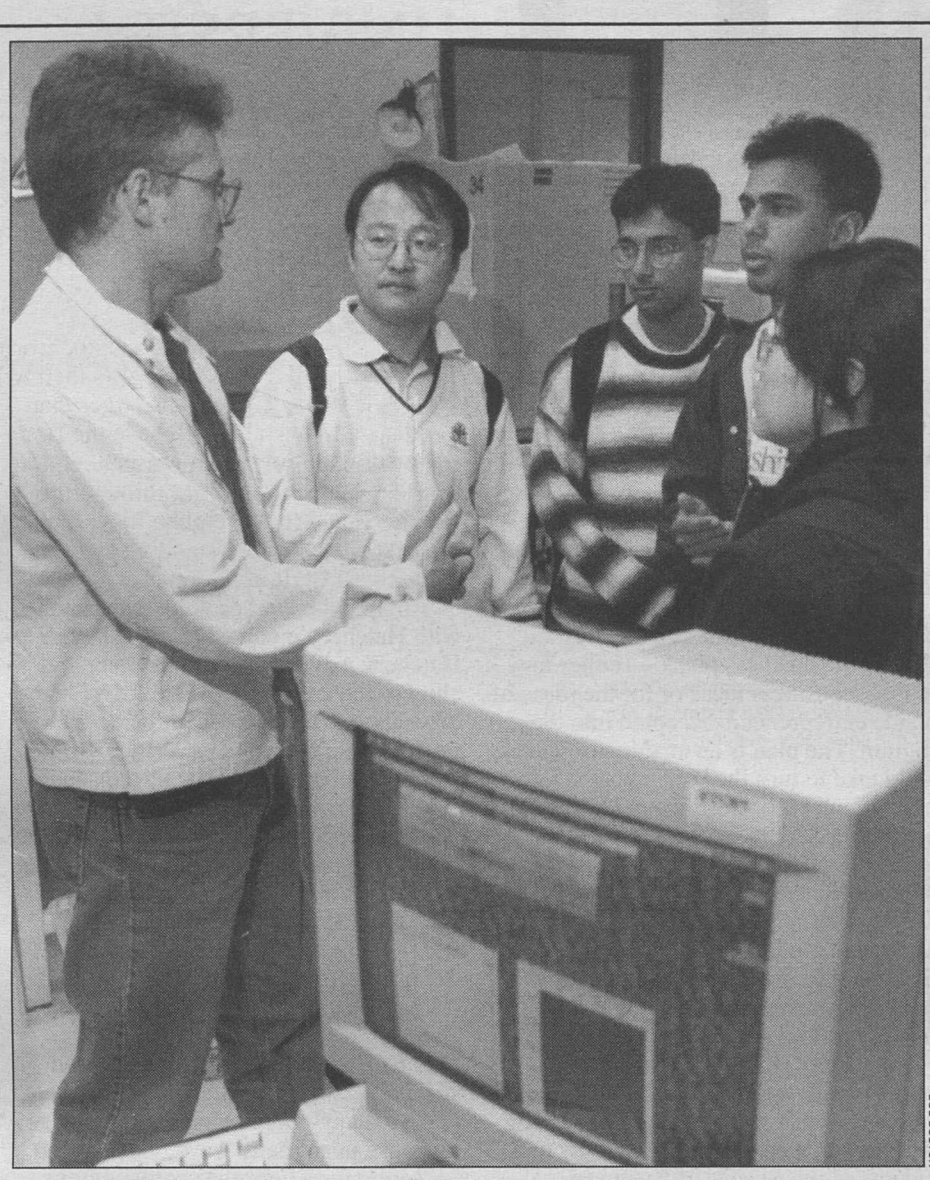
"Through this review process we will get a clear idea of how best to support our faculty's search for funding in this competitive environment," Cicero added. "We'll also have the opportunity to identify steps necessary to assure that Washington University can accommodate the switch to wholly on-line application, tracking and review systems."

To begin the review process, Coopers & Lybrand consultants will interview faculty members on both the Hilltop and the Medical campuses, soliciting their ideas about the best ways to support their research activities.

A series of focus groups will follow,

Continued on page 8

Medical Update



BOB BOSTON

Manipulating DNA

Joseph E. Zahner, Ph.D., (left) research associate in cell biology and physiology, talks with participants in a DNA manipulation class in the Genome Sequencing Center. They are, from his left, Jeong Hyeon Sohn, M. D.; seniors Amit Newatia and Rajesh Malik; and junior Wiriya Rutvisuttinunt.

Scientists generate mice with Duchenne muscular dystrophy

For the first time, scientists have developed mice with realistic symptoms of Duchenne muscular dystrophy, a devastating muscle disease that usually kills those affected by age 20.

This work should greatly advance the search for better treatments, the researchers said. "The only effective way to develop new therapies is to test them in an experimental animal with symptoms of the disease," said Joshua R. Sanes, Ph.D., who led the team. Sanes is a professor of anatomy and neurobiology at the School of Medicine.

The mouse, described in a recent issue of Cell, develops muscle wasting and heart disease and dies by early adulthood. "This is the first animal suitable for studying the effects of Duchenne on both skeletal muscle and the heart," said R. Mark Grady, M.D., an instructor in pediatric cardiology and lead author of the paper. "That's important because these children would die of heart failure as young adults even if their muscles were cured. So it would be a mistake to look for a treatment for just the muscle symptoms."

Duchenne muscular dystrophy is the most common disorder of muscle, affecting mostly boys. Between 20 and 30 out of every 100,000 boys born in the United States this year will develop Duchenne, and 3 out of every 100,000 have it right now. There currently is no effective therapy, though steroids sometimes are used to slow the relentless progression of the disease.

Symptoms usually begin between the second and fifth birthday, when a child starts to fall and have difficulty getting up. By late childhood or early adolescence, the muscles become so weak that crutches give way to a wheelchair. Because the muscles needed for breathing also are destroyed, patients eventually need a ventilator and often die from respiratory disease.

The disorder results from a defect in the gene for an enormous protein called dystrophin, which forms part of the scaffold in muscle fibers. Scientists who want to study the consequences of dystrophin deficiency in an experimental animal have had to rely on a mouse called mdx, which has a natural mutation in the gene. But mdx mice have fairly normal muscles and no apparent heart problems, and they don't get progressively sicker or die young. One possible explanation involves another muscle protein called utrophin, which is very like dystrophin. Mice might contain enough of this protein to stabilize muscle when dystrophin isn't there to do the job. But the larger muscle fibers of humans would deteriorate in the absence of dystrophin, even when utrophin levels were normal.

Grady began testing this idea in 1996 by removing the utrophin gene from a mouse, creating a creature that also had few symptoms. But when the team bred this utrophin-deficient mouse with the mdx mouse, they obtained the mouse described in Cell. Lacking both utrophin and dystrophin, this animal ends up in the same predicament as children with Duchenne. Its symptoms include decreased activity, a waddling gait, stiff limbs, curvature of the spine and death by early adulthood.

The researchers used a variety of tests to determine the underlying causes. By viewing stained muscle samples under the microscope as the mice matured, they found that the muscle degenerated and partly regenerated and degenerated again, replacing itself with connective tissue. So the mouse had the same type of muscle-wasting as children with Duchenne.

Electrophysiological tests showed that the muscles of the double mutant were not nearly as strong as those of normal mice or mice that lacked only utrophin or dystrophin. In fact, they generated only about half as much force when their nerves were stimulated.

The researchers also observed damaged muscle cells in the hearts of double mutants that were not present in the hearts of the other mice. So the double mutant develops severe heart disease, like patients with Duchenne.

The mouse now can be used to learn more about the mechanisms of Duchenne. The work also suggests a new strategy for treatment. "Other researchers recently showed that you can make mdx into a symptom-free mouse by making it synthesize huge amounts of utrophin," Sanes said. "But the double mutant shows that just removing the normal, small amount of utrophin makes mdx very sick. So turning up the human utrophin gene by just a modest amount might make Duchenne patients rather healthy."

Learning how to turn up a gene that already is functioning should be easier than developing gene therapy techniques to replace the faulty dystrophin gene, the researchers believe. "If you could take a boy with Duchenne and make him as healthy as an mdx mouse, that would be a great triumph," Sanes said.

Grants from the Muscular Dystrophy Association and the National Institute of Neurological Disorders and Stroke supported the research.

Neuromuscular disease clinic honored as one of best in nation

A clinic at the School of Medicine that serves area residents with amyotrophic lateral sclerosis (ALS or Lou Gehrig's disease) has been named an MDA/ALS Research and Clinical Care Center by the Muscular Dystrophy Association (MDA).

The special recognition identifies the facility as among the nation's 11 best locations for research and comprehensive medical care for people living with the aggressive muscle-wasting disorder and other neuromuscular diseases.

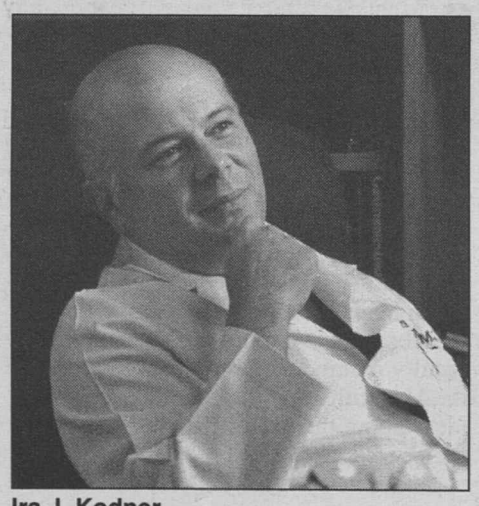
ALS affects some 30,000 Americans. It is a progressive, degenerative motor neuron disease causing deterioration of muscles and nerves leading to almost total paralysis. ALS generally strikes adults between 40 and 60 years of age. Life expectancy is typically two to five years after diagnosis.

"MDA offers singular help and hope to individuals affected by ALS and to their families because of dedicated clinicians and scientists like those working in the trenches against neuromuscular disorders at Washington University," said MDA national chairman Jerry Lewis. "Missourians and Americans across the country have and will continue to benefit from the exceptional research program and exemplary patient care at our Washington University center. The team is a natural focal point for efforts to treat and ultimately eradicate ALS."

Alan Pestronk, M.D., professor of neurology and pathology, heads Washington University's neuromuscular diseases program. "We believe that a multidisciplinary approach, allowing people to deal with a range of problems in one place, provides the best care for ALS patients," Pestronk said. "Our clinic involves medical specialists and people who can provide advice regarding physical and occupational therapy, orthotics, nutrition, social work and medical equipment."

The program also participates in clinical trials that test the latest ideas about ALS treatment. And Pestronk focuses on treatable disorders that may be confused with ALS, developing better methods for diagnosis and therapy. His laboratory also is trying to understand what causes the motor neurons of ALS patients to be singled out for attack by the immune system.

Kodner elected president of American Society of Colon and Rectal Surgeons



Ira J. Kodner

Ira J. Kodner, M.D., professor of surgery at the School of Medicine, has been elected president of the American Society of Colon and Rectal Surgeons (ASCRS).

Kodner, director of the colon and rectal surgery section at the School of Medicine and Barnes-Jewish Hospital, is renowned for his surgical skills and for his research into cancer of the colon and rectum. He has published more than 100 scientific articles relating to diseases of the colon and rectum.

Kodner has received many honors for his accomplishments in medicine and teaching, including the American Cancer Society Award for Leadership and the School of Medicine's Distinguished Alumni Scholarship. He recently was named Physician of the Year by the St. Louis Crohn's and Colitis Foundation.

Kodner joined the ASCRS in 1978 and served on its executive council for five years. He also is a past president of the American Board of Colon and Rectal Surgery and a past director of the American Board of Surgery. He currently serves as a senior examiner for both surgical boards.

Born in Mayfield, Ky., he earned both his bachelor's and medical degrees at Washington University. Following residencies at Jewish Hospital in St. Louis, he joined the School of Medicine faculty in 1976 as a clinical instructor of surgery.

Record

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Washington
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Washington People

Waterston deciphers genetic blueprints

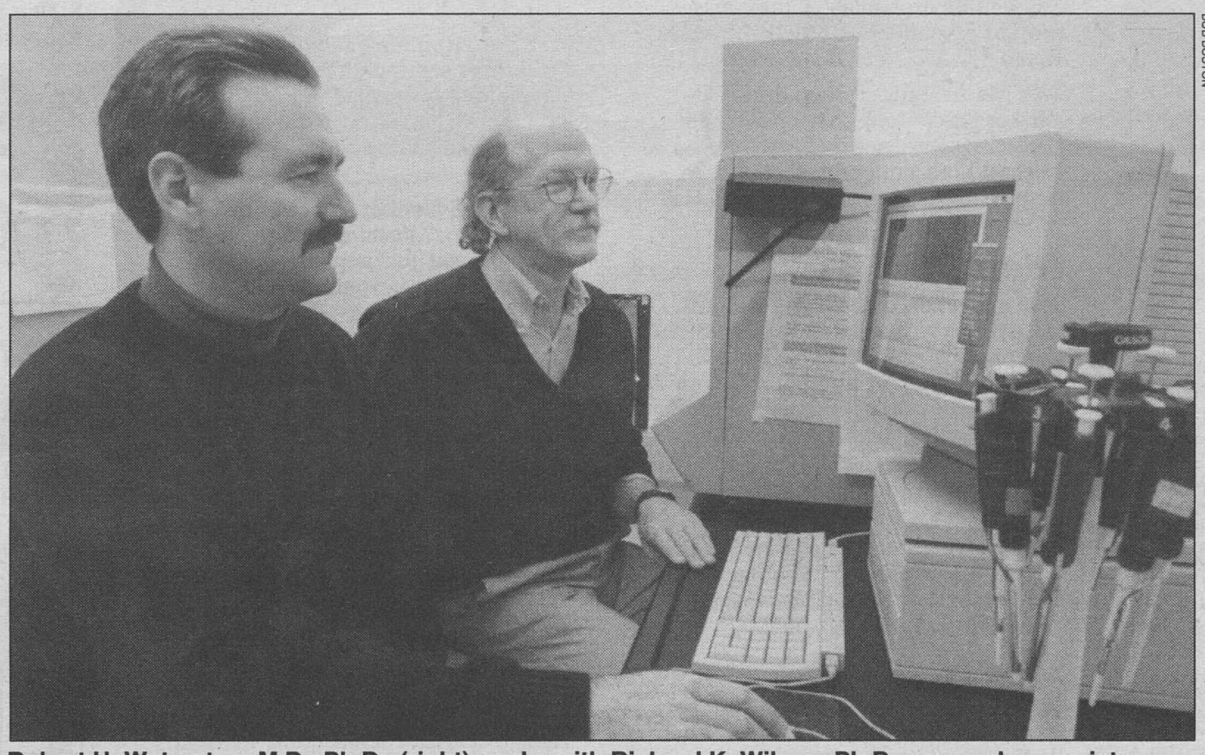
When Bob Waterston decided to go to medical school after completing an engineering degree at Princeton, there were two small problems. One: He had taken no biology courses. Two: He hadn't fulfilled the foreign language requirement.

The solution was obvious — to Waterston. He and his wife went to Europe for biology classes in German, a language they had only just begun to study.

Waterston has always thrived on challenge. In the middle of his medical degree at the University of Chicago, he paused to do a Ph.D. After jogging with his oldest daughter, he became a marathon runner. Now he is running the most ambitious marathon of all — the effort to decipher the human genetic blueprint.

Robert H. Waterston, M.D., Ph.D., is the James S. McDonnell Professor of Genetics and head of the Department of Genetics in the School of Medicine. He also directs the Genome Sequencing Center, where more than 200 researchers, computer specialists, technicians and students work day and night to sequence DNA.

The team is contributing to an international effort called the Human Genome Project, which is systematically finding human genes by spelling out the order of the genetic letters in our DNA. Sequencing the DNA — the genomes — of other organisms also is part of the plan because experiments with genetically similar creatures can reveal human gene function.



BOB BOSTON

Robert H. Waterston, M.D., Ph.D., (right) works with Richard K. Wilson, Ph.D., research associate professor of genetics and co-director of the Genome Sequencing Center.

This expensive project is essential, Waterston explained, because biologists currently are working with most information hidden from view. "Sure, you can study one gene and its local landscape," he said. "But if you really want to understand how an organism works, you need all the information on the table."

The complete sequence of human DNA should be in hand by 2005, and it will profoundly affect our knowledge of ourselves. "By the middle of the next century, we'll have a good understanding of how genes contribute to all aspects of human health, well-being and behavior," Waterston said. "Eventually, there'll be genetic alleviation of many inherited diseases."

From pediatrics to genetics

Genes were not on Waterston's mind when he went to medical school in 1965 to become a pediatrician. But he found himself drawn to the ends of lectures — the parts that dealt with basic science, the area of his Ph.D. studies. So, after finishing his medical degree, he signed up for a postdoctoral fellowship with Sydney Brenner, Ph.D., a geneticist at Cambridge University in England. Even a subsequent residency at Children's Hospital in Boston didn't tempt him back into pediatric care.

Since the 1960s, Brenner had studied the developmental genetics of a graceful nematode worm named *Caenorhabditis elegans*, which lives in soil, and he had several mutants that moved in an awkward manner. Fascinated with the exquisite order of proteins in muscle cells, Waterston decided to explore the muscle defects in these worms.

Joining the School of Medicine as an assistant professor in 1976, he continued to study *C. elegans*, whose muscles are surprisingly similar to those of humans. His group has since defined the role of a major protein called myosin in muscle assembly and contraction. It also has located about 25 muscle genes and their proteins. "Eventually, it became clear that, to understand the many genes involved in muscle assembly, we needed to get much better at the molecular level," Waterston said. "The genome project created a systematic and efficient way of identifying genes."

Waterston's lab was next to that of Maynard Olson, Ph.D., who was on the faculty from 1979 until 1992. "Watching Maynard alternately struggle and succeed in developing methods for mapping yeast made me realize that one could actually think about the genome of the worm," Waterston said. "But at that time it seemed like an audacious idea."

With the aid of a John Simon Guggenheim Fellowship, Waterston returned to Cambridge in 1985 for a sabbatical. There he began to work with John E. Sulston, Ph.D., and Alan R. Coulson, Ph.D., who had begun to create a physical map of the worm's DNA. Their collaboration continues to this day.

Returning to St. Louis in 1986, Waterston found that David T. Burke, one of Olson's graduate students, had found a way to convert large segments of DNA into artificial chromosomes that yeast cells would copy. These yeast artificial chromosomes, or YACs, provided a way to get sufficient amounts of DNA for analysis and, overlapped, would generate a map. The YACs, combined with a previously developed map made from overlapping bacterial clones, led to extensive coverage of a physical map of the worm by 1989.

At a meeting at Cold Spring Harbor, N.Y., that summer, Coulson, Sulston and Waterston pinned six long pieces of paper, each corresponding to a *C. elegans* chromosome, across one room's entire wall. Their impressive map persuaded influential geneticists that it was time to spell out the details of the genome with DNA sequence.

In August 1990, Waterston received a grant from the newly created National Center for Human Genome Research — now the National Human Genome Research Institute. Sulston, his collaborator and now head of Cambridge's Sanger Centre, received funding from Britain's Medical Research Council and through a National Institutes of Health grant. "But several people told us we were crazy even to contemplate this project," Waterston recalled.

If every letter in the genetic code were 1 mm wide, he said, the worm genome would stretch from St. Louis to Columbia, Mo. The longest contiguous sequence anyone had obtained in 1990 would stretch the length of a couple of football fields.

> "By the middle of the next century, we'll have a good understanding of how genes contribute to all aspects of human health, well-being and behavior."

During the first year, the St. Louis group sequenced 40,000 of the worm's 100 million nucleotide base pairs — its genetic letters. But they were constantly testing ways to speed up sequencing. Advances in computer software and increasing mechanization of the biochemistry were helpful in increasing speed. The center now has finished a total of 59 million base pairs from various organisms and has reached a rate of 3.3 million base pairs per month. As well as worm DNA, the researchers are working on DNA from humans, mice and a plant. It also contributed to the complete sequence of yeast, which was announced in April 1996.

Waterston finds this work as intellectually challenging as his muscle research. "I approach it in the same hypothesis-driven manner, having ideas about how to make the process work better and devising experiments to test those ideas," he said.

To date, the St. Louis and Cambridge groups have jointly sequenced nearly three-fourths of the worm's DNA, and the collaboration still is thriving. "Bob Waterston is an excellent and innovative research scientist who also has a tremendous flair for organization," Sulston said. "He is utterly honest, straightforward and fun to be with and is committed to getting things done rather than just talking about them. All of these attributes make him the best collaborator one could hope to find and explain why Washington University has spawned the most effective genome center in the United States."

Apart from some small, incoherent sections, the worm project will be finished next summer. Biologists then will have access to a genome that is eight times larger than any previously sequenced. They also will have the first genome of an organism with more than one cell.

To find out how this genome turns a fertilized egg into a 959-cell animal with organs, Waterston wants to know when and where each gene becomes active. He also hopes to uncover new aspects of gene regulation. The group therefore is sequencing a second roundworm that is as genetically different from *C. elegans* as mice are from humans. By comparing the two genomes, they hope to identify likely regulatory elements.

The success of the worm project has been so spectacular that Waterston and Sulston convinced their funding agencies to go ahead with human genome sequencing. "Three years ago, Bob Waterston rattled the scientific community by urging the Human Genome Project to get on with our most daunting goal: the letter-by-letter sequencing of the entire human genome," said Francis Collins, M.D., Ph.D., director of the National Human Genome Research Institute. "Most people thought that beginning such a momentous task was several years away. But it should have been no surprise to have this challenge come from Bob. In addition to being wise, thoughtful and generous-spirited when it comes to genome matters, he leads the most successful DNA sequencing partnership in the world. He's a big part of the reason I am confident that we'll finish the human sequence on time."

In April 1996, the Genome Sequencing Center received a three-year $24 million grant, the largest of six grants for sequencing human DNA. To date, researchers around the world have completed about 2 percent of the human genome, which, with 3 billion base pairs, is 30 times larger than that of *C. elegans*. "If the worm genome were to stretch from St. Louis to Columbia, the human genome would stretch from St. Louis to L.A.," Waterston pointed out.

Public access to genomic data

Waterston and Sulston's views on public access to genomic data also have been strongly influential. "This information is for future discoveries, so we should get the information to as many people as possible," Waterston said. "A few years ago, two or three small companies were trying to restrict access to large amounts of sequencing data. That was a wake-up call."

The upshot was that, in 1994, Merck & Co. Inc. funded Washington University's efforts to sequence snippets of human gene copies, agreeing that the data should go to a publicly accessible database at the National Library of Medicine in Bethesda, Md. The center also sends raw data straight from its sequencing machines to its own Web site each day, sometimes with spectacular results. On Nov. 23, 1995, it posted the sequence of a region of human DNA known to contain a breast cancer gene, *BRCA2*. On Dec. 5, 1995, an international group submitted a paper to the journal Nature identifying the gene's exact location.

Between his involvement with the genomics community and hands-on work in the lab, Waterston has little spare time — these days, he keeps fit by riding his bike to work. But he supports the efforts of his wife, Pat, who is president of the board of Coalition for the Environment, a board member of the Missouri Parks Association and a former head of Citizens to Protect Forest Park.

The Waterstons' youngest daughter, a junior at Washington University, hopes to make a career in environmental policy. Their oldest daughter is a graphic designer in Palo Alto, Calif. Their middle daughter is looking for a teaching position in Chicago. Six years ago, the Waterstons took their nephew, now 7, into their home.

This month, the Waterstons went to Pakistan to hike in the Himalayas. Climbing the smaller peaks, they glimpsed the bigger ones above. Waterston will remember that view as he and his colleagues labor up the biggest peak in the genomic landscape, aiming for the top by 2005.

—Linda Sage

Calendar

Visit Washington University's on-line calendar at
http://cf6000.wustl.edu/calendar/events/v1.1

Oct. 30–Nov. 8

Exhibitions

"Die Winterreise (Winter Journey): A Graphic Cycle After Franz Schubert." Etchings by contemporary Austrian artist Herwig Zens, based on Schubert's song cycle of the same name. Organized by the Austrian Cultural Institute, New York. Through Nov. 20. Music Classroom Building. 935-4841.

Selections from the Washington University art collections. "Leonard Baskin: Prints," "The Age of Rembrandt," and "Recent Trends in American Art." Through Dec. 7. Gallery of Art, lower galleries. 935-5490.

"The Dual Muse: The Writer as Artist, The Artist as Writer." Exhibit runs Nov. 7 through Dec. 21. Public opening Nov. 7, 5-7 p.m. Gallery of Art, upper gallery. 935-5490.

"Una Selva Oscura." The work of Tom Phillips, painter. Exhibit runs Nov. 7 through Jan. 2. Opening reception Nov. 8, 5:30 — 7 p.m. Special Collections, level five, Olin Library. 935-5495.

Films

Friday, Oct. 31

7 and 9:30 p.m. Filmboard Feature Series. "Seven" (1995). (Also Nov. 1, same times, and Nov. 2, 7 p.m.) Cost: $3 first visit, $2 subsequent visits. Room 100 Brown Hall. 935-5983.

Midnight. Filmboard Midnight Series. "The Shining" (1980). (Also Nov. 1, same time, and Nov. 2, 9:30 p.m.) Cost: $3 first visit, $2 subsequent visits. Room 100 Brown Hall. 935-5983.

Tuesday, Nov. 4

7 and 9:30 p.m. Filmboard Foreign/ Classic Series. "That's Entertainment!" (1974). (Also Nov. 5, same times.) Cost: $3 first visit, $2 subsequent visits. Room 100 Brown Hall. 935-5983.

Wednesday, Nov. 5

6 p.m. Japanese Film Series. "Kishin Corps." Episode 1: "Mission Call For Kishin Thunder" (English subtitles). Room 219 S. Ridgley Hall. 935-5156.

Friday, Nov. 7

7 and 9:30 p.m. Filmboard Feature Series. "Breaking the Waves" (1996). (Also Nov. 8, same times, and Nov. 9, 7 p.m.) Cost: $3 first visit, $2 subsequent visits. Room 100 Brown Hall. 935-5983.

Midnight. Filmboard Midnight Series. "Amazon Women on the Moon." (1987). (Also Nov. 8, same time, and Nov. 9, 9:30 p.m.) Cost: $3 first visit, $2 subsequent visits. Room 100 Brown Hall. 935-5983.

Lectures

Thursday, Oct. 30

9:30 a.m. Town and Gown Lecture Series. "Architecture Perspective on St. Louis 2004." Cynthia Weese, dean, School of Architecture. Sponsored by the Women's Society of Washington U. Alumni House Living Room. 935-7337.

Noon. Genetics seminar. "Cellular Asymmetrics in Chlamydomonas: The Role of Basal Bodies." Susan Dutcher, prof., MCD biology dept., U. of Colo.-Boulder. Genetics Library, Room 823 McDonnell Medical Sciences Bldg. 362-7072.

4 p.m. Chemistry seminar. "Self-assembled Ionophores." Jeffrey Davis, asst. prof. of chemistry. U. of Md., Room 311 McMillen Lab. 935-6530.

4:15 p.m. Philosophy/neuroscience/ psychology colloquium. "Metaphor of Self and Environment." Ulric Neisser, prof. of psychology, Cornell University. Room 362 McDonnell Hall. 935-5119.

4:30 Mathematics colloquium. "The Aliakos Fusco Conjecture on Beltrami Laplacians Penalized by Curvature." Michael Loss, prof. of mathematics, Georgia Tech. Room 199 Cupples I Hall. 935-6748.

Friday, Oct. 31

9:15 a.m. Pediatrics Grand Rounds. "H. pylori and Parietal Cells: Unindicted Co-conspirators." Jeffrey I. Gordon, Alumni Professor and head, molecular biology and pharmacology dept., and prof. of medicine. Clopton Aud., 4950 Children's Place. 454-6006.

Noon. Cell biology and physiology seminar. "Hsc 70: A Molecular Chaperone With Many Masks." Andrei Laszlo, assoc. prof. of radiology. Room 426 McDonnell Medical Sciences Bldg. 362-6950.

Sunday, Nov. 2

1:30 p.m. American Jewish Congress lecture and panel discussion. The Jerome W. Sidel Memorial Lecture. "Welfare and Poverty: Rethinking Our Duty to the Poor." Peter B. Edelman, professsor of constitutional law, Georgetown U. Bryan Cave Moot Courtroom, Anheuser-Busch Hall. 993-5505.

Monday, Nov. 3

Noon. Molecular biology and pharmacology seminar. "Protein Engineering of the Myelopoietins by Mutation Circular Permutation and Combination of Amino Acid Sequences." Charles A. McWherter, adjunct asst. prof. of molecular biology and pharmacology and fellow, discovery research, Monsanto/Searle. Pharmacology Library: Philip Needleman Library, Room 3907 South Bldg. 362-2725.

4 p.m. Immunology Research Seminar Series. "Activation of Self Antigen Specific T Lymphocytes: Multistep Events Leading to Autoimmunity." Osami Kanagawa, research associate prof. of medicine and assoc. prof. of pathology. Eric P. Newman Educational Center. 362-2763.

4:15 p.m. Romance languages and literatures seminar. "Analyse de l'épisode de la petite madeleine" (presented in French). Julia Kristeva, writer, critic and visiting distinguished prof. Open to Washington U. faculty and students. Hurst Lounge, Duncker Hall. 935-5175.

Tuesday, Nov. 4

2 p.m. Romance languages and literatures seminar. "La métaphore et la syntaxe chez Proust" (presented in French). Julia Kristeva, writer, critic and visiting distinguished prof. Hurst Lounge, Duncker Hall. 935-5175.

4 p.m. Business lecture and award program. Kellwood Lecture and Olin's Excellence in Business Award presentation. "Transforming an American Icon." Arthur Martinez, CEO and Chairman of Sears, Roebuck and Co. and recipient of award. May Aud., Simon Hall. 935-8001.

8 p.m. Romance languages and literatures lecture. "Proust, Issues of Identity." Julia Kristeva, writer, critic and visiting distinguished prof. Steinberg Aud. 935-5175.

Wednesday, Nov. 5

8 a.m. Obstetrics and Gynecology Grand Rounds. "Preparation of the Cervix for Labor Induction: A Consumer's Guide to the Tools of the Trade." Dorothea J. Mostello, asst. prof. of obstetrics and gynecology. Clopton Aud., 4950 Children's Place. 362-7139.

11 a.m. Assembly Series lecture. Holocaust Memorial Lecture. "The Holocaust and its Remembrance." Michael Berenbaum, president and CEO, Survivors of the Shoah Visual History Foundation. Graham Chapel. 935-5285.

3:45 p.m. Physics colloquium. "How Things Work." Louis Bloomfield, prof. of physics, U. of Virginia. Room 204 Crow Hall. 935-6252.

4 p.m. Biology seminar. "Social Organisms and Selfish Genes: Evolutionary Thought in 20th Century American Culture." Gregg Mitman, prof. of the history of science, U. of Oklahoma, and Davis Fellow, Princeton U. Room 322 Rebstock Hall. 935-6808.

4:15 p.m. Romance languages and literatures seminar. "Texte et expérience" (presented in French). Julia Kristeva, writer, critic and visiting distinguished prof. Women's Bldg. Lounge. 935-5175.

7:30 p.m. School of Art Lecture Series. "What's New? Pushing Boundaries in the 90s: Different Techniques in Printmaking." Marilyn Kushner, curator of prints and drawings, Brooklyn Museum of Art. Gallery of Art. 935-6500.

Thursday, Nov. 6

1:10 p.m. Social Work Lecture Series. "The Politics of Aging in a Diverse Society: A Nation in Transition." Fernando Torres-Gil, prof. and director, Center for Policy Research on Aging, School of Public Policy and Social Research, U. of Calif. at L.A. Brown Hall Lounge. 935-7453.

4 p.m. Chemistry seminar. "Synthesis and Design of Synthetic Enzymes: Mn(II) Pentaaza Macrocyclic Ligand Complexes as Superoxide Dismutase Mimics and Their Utility as Therapeutics." Dennis Riley, Monsanto Co. Room 311 McMillen Lab. 935-6530.

4 p.m. Earth and planetary sciences colloquium. "Modern Approaches to Understanding Magmatic Evolution." Mark Ghiorso, prof. and chair, geological sciences dept., U. of Wash.-Seattle. Room 162 McDonnell Hall. 935-5610.

4:15 Philosophy colloquium. "The Myth of the System." Michael Williams, prof. of philosophy, Northwestern U. Stix International House Living Room. 935-6670.

4:15 p.m. Romance languages and literatures seminar. "Proust et l'affaire Dreyfus" (presented in French). Julia Kristeva, writer, critic and visiting distinguished prof. Hurst Lounge, Duncker Hall. 935-5175.

4:30 p.m. Mathematics colloquium. "Recent Advances in Bergman Spaces." Peter Duren, prof. of mathematics, U. of Michigan. Room 199 Cupples I Hall. 935-6748.

5:30 p.m. Art history and archaeology lecture. "Can an Artist Tell a Lie: Antoine-Jean Gros and Napoleonic Propaganda." David O'Brien, asst. prof. of art history, U. of Illinois at Urbana-Champaign. Room 200 Steinberg Hall. 935-5270.

Friday, Nov. 7

Noon. Cell biology and physiology seminar. "Membrane Traffic to the Yeast Vacuole: Roles for Dynamin-like and SNARE-like Proteins." Tom H. Stevens, prof. of molecular biology, Institute of Molecular Biology, U. of Ore. Room 426 McDonnell Medical Sciences Bldg. 362-6950.

Noon. Woman's Club 21st Century Lecture. "My Year at Fisk University." Gerald L. Early, the Merle Kling Professor of Modern Letters and dir., African and Afro-American Studies Program. King Center, 7th floor, The Bernard Becker Medical Library.

4 p.m. Chemistry seminar. "Molecular Modeling and Measurement: The Relationship of Carbon-Radical Reaction Rates to Steric Hindrance." Rudy Gostowski, Austin Peay State U., Clarksville, Tenn. Room 311 McMillen Lab. 935-6530.

4 p.m. Music lecture . "Motivation in the Piano Studio." Steve Roberson, assoc. prof. of piano, Butler U., Indianapolis. Room 102 Music Classroom Bldg. 935-5515.

6 and 8:30 p.m. WU Association Travel Lecture Series. "Greek Isles" by Grant Foster. Cost: $4.50. Graham Chapel. 935-5212.

Music

Thursday, Nov. 6

8:30 p.m. Student Recital. Graham Chapel. 935-4841.

Performances

Friday, Oct. 31

8 p.m. OVATIONS! Series performance. Thang Long Water Puppet Theater/Vietnam. (Also Nov. 1, 2 p.m. and 8 p.m.) Cost: $23. Edison Theatre. 935-6543.

Miscellany

Registration open for the AIDS Clinical Trials Unit and MATEC-EM symposium. "NIH Principles and Guidelines for the Use of Antiretroviral Agents in HIV-infected Individuals" (Nov. 21), Eric P. Newman Education Center. For times, costs and to register, call 362-2418 or (800) 432-0448.

Registration open for the following Office of Continuing Medical Education seminars. "Maturing Gracefully: An Update on Urology and Osteoporosis" (Nov. 1), Ritz-Carlton Hotel, 100 Carondelet Plaza; second annual "Fingers to Toes: Comprehensive Orthopaedic Review Course for Primary Care Physicians" (Nov. 7-8), Eric P. Newman Education Center; 23rd annual "Symposium on Obstetrics and Gynecology" (Nov. 13-14), Eric P. Newman Education Center. For times, costs and to register, call 362-6891.

Thursday, Oct. 30

9 a.m. -5:30 p.m. School of Law/European Studies Program conference. "The Euro: A New Single Currency for Europe?" Cost: $75 (Washington U. faculty, staff and students may attend individual sessions for free.) Room 309 Anheuser-Busch Hall. 935-6482.

7:30 p.m. Feminist reading group. Discussion of Julia Kristeva's anthology, "The Portable Kristeva." Open to Washington U. faculty and graduate students. Hurst Lounge, Duncker Hall. 935-5102.

Saturday, Nov. 1

10 a.m. Hillel Center event. Shabbat Service and "Lunch and Learn." Hyim Shafner, director of education, Hillel Center. Cost: $5. Pre-paid reservations required by noon Thursday, Oct. 30. Hillel Center, 6300 Forsyth Blvd. 726-6177.

Sunday, Nov. 2

10 a.m. Hillel Center event. Brunch and concert. Hugh Blumenfeld, singer/ songwriter. Cost: $8. Pre-paid reservations required by noon Thursday, Oct. 30. Hillel Center, 6300 Forsyth Blvd. 726-6177.

Noon. Catholic Student Center event. Annual Newman brunch to benefit the Catholic Student Center. Cost: $50 for individual tickets. Frontenac Hilton Hotel, 1335 S. Lindbergh Blvd. For reservations, call 725-3358.

Wednesday, Nov. 5

7 p.m. Catholic Student Center event. From the Holocaust to Human Rights: A Mini-course on the Work of Elie Wiesel and Noam Chomsky. "The Political Economy of

Human Rights: Linking the Holocaust to U.S. Foreign Policy." Mark Chmiel, adjunct prof. of theology, St. Louis U. Catholic Student Center, 6352 Forsyth. 725-3358.

Thursday, Nov. 6

1:30 p.m. Center for the Study of American Business debate. "Is Environmental Protection Too Important to Trust to the States?" Maxine I. Lipeles, prof. of environmental policy and regulation; Kenneth Midkiff, program dir., Ozark (Mo.) Chapter, Sierra Club; and P.J. Hill, the George Bennett Professor of Economics, Wheaton (Ill.) College. Bryan Cave Moot Courtroom, Anheuser-Busch Hall. 935-4839.

Saturday, Nov. 8

10 a.m. International Writers Center/ Gallery of Art/Olin Library Special Collections conference. "The Dual Muse: The Writer as Artist, The Artist as Writer." Features Jennifer Bartlett, painter and novelist; Breyten Breytenbach, writer and painter; Tom Phillips, painter, writer-translator and composer; and Derek Walcott, Nobel laureate poet and water-colorist. (Continues Nov. 9.) The conference is free, but space is limited; a $25 registration fee will guarantee seating. Registration deadline is Friday, Oct. 31. Steinberg Aud. 935-5576.

Vienna Fest 1997

Thursday, Nov. 6

4 p.m. Arts symposium. "Staging the Erotic in Turn-of-the-Century Vienna." Explores Arthur Schnitzler's "La Ronde." Gerald N. Izenberg, prof. of history; Henry I. Schvey, prof. of drama and chair, performing arts dept.; William Whitaker, artist in residence in performing arts. Edison Theatre. 935-5858.

Brunch to benefit Catholic Student Center

The annual Newman brunch to benefit the Catholic Student Center (CSC) at Washington University will be held at noon Sunday, Nov. 2, in the ballroom of the Frontenac Hilton Hotel, 1335 S. Lindbergh Blvd.

The University's nationally recognized a cappella group, the Pikers, will perform. Charles Brennan of KMOX-AM will be master of ceremonies.

For nearly 50 years, mostly under the leadership of Monsignor Gerard N. Glynn and now the Rev. Gary G. Braun, the Catholic Student Center has provided religious programs, counseling services and social activities for students of all denominations.

For more information or reservations, call the CSC at 725-3358.

Vietnam's internationally renowned Thang Long Water Puppet Theater brings its unique puppetry techniques to Edison Theatre Friday and Saturday, Oct. 31 and Nov. 1, as part of the OVATIONS! Series.

Water puppet theater performs at Edison

Angels, dragons, phoenixes and other mythical creatures will dance, dive and swim on the Edison Theatre stage when Vietnam's internationally renowned Thang Long Water Puppet Theater helps celebrate Edison's 25th annual OVATIONS! Series. The performances, ideal for family audiences, are at 8 p.m. Friday, Oct. 31, and 2 and 8 p.m. Saturday, Nov. 1.

Originally performed on the surfaces of ponds and paddy fields in Vietnam's Red River Delta, the 1,000-year-old art of water puppetry (in Vietnamese, *mua roi nuoc*) remained little known outside rural Vietnam until the 1960s, when the North Vietnamese government began supporting it as a national art form.

Its main practitioners were farmers and fishermen who found water to be an excellent medium for puppetry, not only concealing the puppets' rods and string mechanisms, but also providing special effects like waves and splashes. For the Edison Theatre performances, a tank holding 15,000 gallons of water will be installed on stage.

Puppetry techniques were jealously guarded secrets, protected by village guilds and passed from father to son, though not to daughters because they might marry outside the village and take the prized information with them. Even today, certain maneuvers are referred to only by code.

Founded in 1969 by the Hanoi People's Committee, the Thang Long Water Puppet Theater consists of 12 puppeteers, eight musicians, five technical personnel and Artistic Director Le Van Ngo. Their large, intricately decorated puppets are hand-carved from water-resistant *sung* trees and range from 2 to 4 feet in height. Stories are set to the strains of traditional Vietnamese folk music and can range from everyday scenes of fishing and farming to ancient myths and legends, often including effects like smoke or fireworks.

Vietnam's premier water puppet troupe, the Thang Long company has performed worldwide. The troupe was brought to the United States by Vu-Duc Vuong, president of San Francisco's Southeast Asian Chamber of Commerce, who left Vietnam in 1969 to attend Washington University's College of Arts and Sciences, School of Law and the George Warren Brown School of Social Work. Edison Theatre is one of only six U.S. venues for Thang Long's current tour.

Tickets are $23; $18 for senior citizens, faculty and staff; and $12 for students. Tickets are available at the Edison Theatre Box Office, 935-6543, or through MetroTix, 534-1111. For more information, call 935-6543.

Jewish Congress probes 'duty to the poor'

"Welfare and Poverty: Rethinking Our Duty to the Poor" is the topic of a lecture by policy expert Peter B. Edelman and a panel discussion offered as part of the 20th annual Constitutional Conference of the American Jewish Congress (AJC) at 1:30 p.m. Sunday, Nov. 2, in the Bryan Cave Moot Courtroom, Anheuser-Busch Hall.

Edelman, a professor of constitutional law at Georgetown University, Washington, D.C., will present the Congress' Jerome W. Sidel Memorial Lecture, which will be followed by the panel discussion. Edelman is the former assistant secretary of the U.S. Department of Health and Human Services who resigned last year to protest the Clinton administration's welfare policy.

The panelists are Michael Sherraden, Ph.D., the Benjamin E. Youngdahl Professor of Social Development in the George Warren Brown School of Social Work; Eddie Mae Binion, executive director, Southside Welfare Rights Organization and Education Association and a board member of Legal Services of Eastern Missouri; Richard Gram, chief operating officer, Grace Hill Neighborhood Services, St. Louis; and Charmaine Chapman, president and chief executive officer, United Way of Greater St. Louis.

The conference, which is free and open to the public, is co-sponsored by the School of Law and the social work school.

For information on the conference, continuing education credits or the post-event donor reception, call the AJC at 993-5505 or send e-mail inquiries to stlouis@ajcongress.org.

Policy expert speaks on 'Politics of Aging'

"The Politics of Aging in a Diverse Society: A Nation in Transition" is the topic of a lecture by social policy expert Fernando Torres-Gil at 1:10 p.m. Thursday, Nov. 6, in the Brown Lounge of the George Warren Brown School of Social Work.

The son of a migrant farm worker from Salinas, Calif., Torres-Gil is a nationally recognized policy expert on issues related to long-term care, gerontology, ethnicity, human services, rehabilitation and disability.

He currently is a professor and director of the Center for Policy Research on Aging at the School of Public Policy and Social Research, University of California at Los Angeles.

Torres-Gil has held a wide range of positions in government, including first assistant secretary for aging in the U.S. Department of Health and Human Services from 1993-96.

He received a bachelor's degree in political science with honors from San Jose (Calif.) State University in 1970 and two degrees from Brandeis University, Waltham, Mass. — a master of social work in 1972 and a doctorate in social policy, planning and research in 1976.

The lecture is free and open to the public. For more information, call 935-7453.

Lecture explores new printmaking methods

Marilyn Kushner, curator of prints and drawings at the Brooklyn (N.Y.) Museum of Art, will speak on printmaking at 7:30 p.m. Wednesday, Nov. 5, as part of the School of Art's 1997-98 Lecture Series.

The lecture, titled "What's New? Pushing Boundaries in the 90s: Different Techniques in Printmaking," is free and open to the public and will take place in the Gallery of Art.

Before joining the Brooklyn Museum in 1994, Kushner was curator of collections at the Montclair (N.J.) Art Museum. Prior to that she was research curator at the Whitney Museum of American Art, New York City. Kushner has taught at a number of major arts and educational institutions and is currently adjunct professor in the Department of Art History at Rutgers University, New Brunswick, N.J.

For more information, call 935-6500.

Sports

Compiled by Mike Wolf, asst. athletic director for media relations, and Kevin Bergquist, asst. director, sports information. For the most up-to-date news about Washington University's athletics program, access the Bears' Web site at www.sports-u.com.

Bears beat Rochester

Washington University won its 1997 Homecoming game with a 32-9 victory over the University of Rochester Saturday at Francis Field.

Current Record: 4-3 (2-1 UAA)

This Week: 7 p.m. Saturday, Nov. 1, vs. University of Chicago (UAA), Francis Field.

Men's soccer wins two

The men's soccer team beat Emory University, 2-0, and New York University, 3-0, last weekend.

Current Record: 9-5 (3-3 UAA)

This Week: 11 a.m. Saturday, Nov. 1, vs. Case Western Reserve University (UAA), Francis Field.

Women's soccer on streak

The 13th-ranked women's soccer team remained unbeaten in its last seven games (6-0-1) by winning three home games last week over Fontbonne College, New York University and Emory University.

Current Record: 13-3-1 (3-2-1 UAA)

This Week: 1:30 p.m. Saturday, Nov. 1, vs. Case Western Reserve University (UAA), Francis Field.

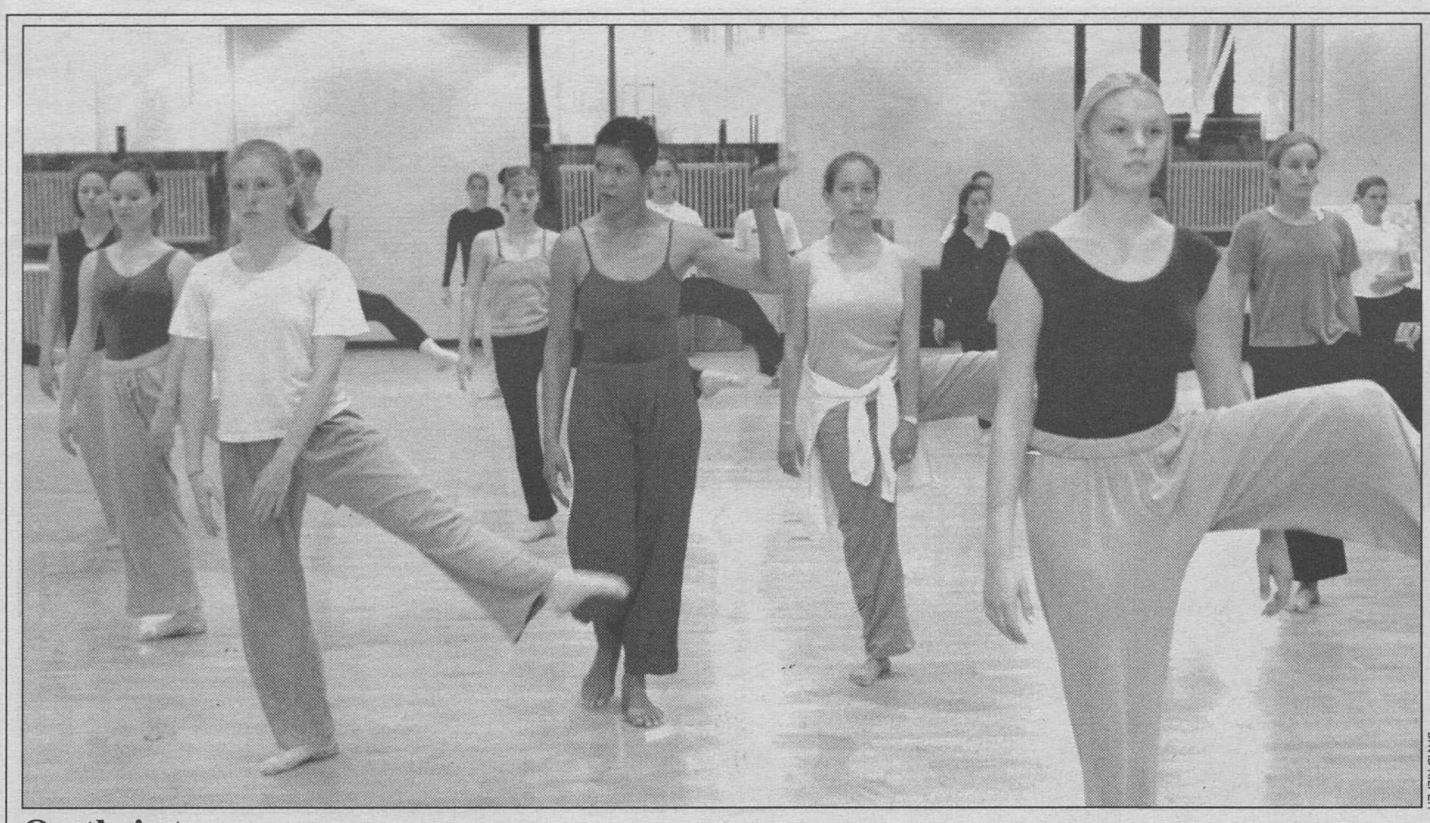
Volleyball wins classic

The third-ranked volleyball team won the championship at the NAIA-caliber College of St. Francis Classic in Joliet, Ill., last weekend. The team competes in the UAA Championship in New York this Friday and Saturday.

Current Record: 28-6 (8-0 UAA)

Runners to compete

The men's and women's cross country teams compete Sunday in the UAA Championships at Brandeis University in Waltham, Mass.



DAVID KILPER

On their toes

Dancer-choreographer Robin Marie Wilson (center) conducts master classes in modern and Afro-Caribbean dance techniques for dancers in the Performing Arts Department (PAD) in Arts and Sciences during a visit to campus Oct. 20-22. Wilson, a 1977 PAD graduate, is assistant professor of dance at the University of Michigan in Ann Arbor.

Green Lights Program cuts energy use

Washington University has given the green light to a program to decrease energy use and reduce pollution.

Through voluntary participation in the Environmental Protection Agency's (EPA) Green Lights Program, the lights in buildings on the Hilltop Campus are being replaced with energy-efficient bulbs. The change means brighter lights, longer bulb life and significant annual savings in future years.

"We're one of St. Louis' largest energy users," said Ed McMullin, manager of the University's technical operations. Consideration of the cost savings coupled with the environmental benefits led the University to sign a Memorandum of Understanding with the EPA, officially introducing the program to campus in March 1996, McMullin said.

Since then, the University has upgraded six buildings. They are Olin Library and Bixby, Brown, Cupples II, Givens and Rebstock halls. The upgrades will result in an annual savings of more than 1 million kilowatt hours, a 211-kilowatt reduction in demand and an annual electrical cost savings of $61,741. The six buildings represent 10 percent of the 3.8 million square feet of upgradeable area on campus.

"We can move ahead now and do another group of select buildings," said Ralph H. Thaman Jr., director of Facilities Planning and Management. "Eventually, we'd like to get the whole campus done."

Thaman expects that in December a second round of buildings will be chosen for upgrade. The entire campus should be upgraded in five years, he said.

Along with the upgrades, all newly constructed buildings and renovated buildings on campus will use the energy-efficient lighting systems.

For example, Anheuser-Busch Hall and the recently renovated South Brookings Hall use the new lights.

The EPA-sponsored program began five years ago in response to concerns over global warming and reducing the country's dependence on foreign energy sources. In collaborating with the EPA, participants agree to upgrade their facilities with energy-efficient lighting. The EPA provides program partners with a variety of technical support tools and services, such as product information and training workshops, to make the process easier and more cost-effective.

The new lighting system is a combination of bulbs and ballasts. The lights, called T-8 lamps, are 31-watt fluorescent bulbs. They use an electronic ballast that acts as a power transformer, producing electricity at a higher frequency. Electronic ballasts combined with T-8 lamps are 30 percent more efficient than standard fluorescent systems and 20 percent more efficient than energy-efficient magnetic ballast systems. To the human eye, the only perceptible difference is that the light is brighter.

Using the lights also decreases pollution. In the United States, 30 percent to 40 percent of energy use is for lighting, said Larry Downey, the University's Green Lights implementation director. Creating that power can produce pollutants. But because the new lighting system has a lower energy demand, less power needs to be generated, thereby reducing pollution, Downey said.

Washington University is one of more than 120 colleges and universities throughout the country that have joined the Green Lights Program. As Thaman said, "We're just doing our part."

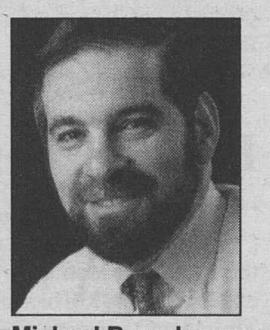
—Martha Everett

Survivors of the Shoah's Berenbaum leads off lecture cycle on Nazism

Michael Berenbaum, president of Survivors of the Shoah Visual History Foundation, will deliver the Assembly Series' annual Holocaust Memorial Lecture at 11 a.m. Wednesday, Nov. 5, in Graham Chapel. Berenbaum's lecture is titled "The Holocaust and Its Remembrance."

Berenbaum's address will be the first in a cycle of three lectures exploring aspects of Nazism. At 7: 30 p.m. Nov. 9, Yaron Svoray, who infiltrated and exposed the neo-Nazi bloc in Germany, will deliver a lecture sponsored by the Jewish Student Council titled "In Hitler's Shadows," also in Graham Chapel. Robert Proctor, an authority on the history of science, will conclude the lecture cycle with the Assembly Series' Thomas Hall Lecture titled "Science and Medicine in the Service of Nazism" at 4 p.m. Nov. 13 in Room 215 Rebstock Hall. Each lecture is free and open to the public.

Survivors of the Shoah Visual History Foundation is a non-profit organization founded by film producer/director Steven Spielberg that is dedicated to videotaping and preserving interviews with Holocaust survivors throughout the world. Berenbaum is the author of more than 10 books, including "After Tragedy and Triumph," "The World Must Know" and "Anatomy of the Auschwitz Death Camp," as well as articles in numerous periodicals.



Michael Berenbaum

Berenbaum has served as director of the United States Holocaust Research Institute and as the Hymen Goldman Adjunct Professor of Theology at Georgetown University. He was the first project director of the United States Holocaust Memorial Museum and held the post from 1988 until 1993.

He also has served as the opinion-page editor of Washington Jewish Week and as deputy director of the President's Commission on the Holocaust, where he authored its Report to the President.

Berenbaum earned a bachelor's degree from Queens College in 1967 and a doctorate from Florida State University in 1975. He also has attended The Hebrew University, the Jewish Theological Seminary and Boston University. He has served on the faculty of Wesleyan University and Yale University.

For more information, call 935-5285.

Fox lecture canceled; Andrew Sullivan to talk

Andrew Sullivan, former editor of The New Republic and author of "Virtually Normal: An Argument About Homosexuality," will deliver an Assembly Series lecture titled "Friendship: The Forgotten Relationship" at 11 a.m. Nov. 12 in Graham Chapel in place of Renee Fox's lecture scheduled for that date. Fox's lecture has been canceled.

Economist and Sierra Club official debate

"Is Environmental Protection Too Important to Trust to the States?" is the topic of a debate sponsored by Washington University's Center for the Study of American Business at 1:30 p.m. Thursday, Nov. 6, in the Bryan Cave Moot Courtroom, Anheuser-Busch Hall.

Maxine I. Lipeles, J.D., professor of environmental policy and regulation in the School of Engineering and Applied Science, will moderate the debate between P.J. Hill, Ph.D., a Wheaton (Ill.) College economics professor who has written on environmental federalism, and Kenneth Midkiff, a legislative lobbyist for the Sierra Club.

Hill is the George Bennett Professor of Economics at Wheaton and a senior associate of the Political Economy Research Center, Bozeman, Mont. He is co-editor of two books on environmental issues: "Environmental Federalism" and "Eco-Sanity: A Common-Sense Guide to Environmentalism."

Midkiff is program director for the Ozark (Mo.) Chapter of the Sierra Club. As a consultant on issues of clean air, clean water and land stewardship, Midkiff serves on various Missouri task forces and working groups.

The event, which is free and open to the public, will include an opportunity for questions from the audience.

For more information, call the Center for the Study of American Business at 935-4839.

Weekend gives parents taste of campus life

Expect some fast and furious room cleaning Thursday, Oct. 30 — Parents Weekend 1997 begins the next morning!

The three-day program, which kicks off with an 8:30 a.m. registration Friday, Oct. 31, is aimed at giving parents an opportunity to learn more about their children's lives at Washington University.

The schedule is packed with a wide array of activities, ranging from "open" classes to campus and city tours to art, music, fashion shows and sports events.

On the agenda for Saturday, Nov. 1, is an 8:45 a.m. presentation in The Gargoyle in Mallinckrodt Center by Karen Levin Coburn, assistant vice chancellor for students and associate dean for the freshman transition, titled "Parents and Students: Changing Roles and Relationships." Coburn, the author of "Letting Go: A Parent's Guide to Understanding the College Years," will discuss ongoing delights, dilemmas and diplomacy for parents of college students.

Also on Saturday, Chancellor Mark S. Wrighton will give the Chancellor's Welcome at 10 a.m. in Graham Chapel. At that time, Daniel B. Shea, Ph.D., professor and chair of the Department of English in Arts and Sciences, will deliver a lecture titled "A Psychic St. Louis Woman: Tales From a Ouija Board."

For more information, call 935-7447.

Campus Watch

The following incidents were reported to the University Police Department from Oct. 20–26. Readers with information that could assist the investigation of these incidents are urged to call 935-5555. This release is provided as a public service to promote safety awareness on campus.

Oct. 20

2:12 p. m. — A student reported the theft of a laptop computer valued at $500 from a secured locker in Olin Library.

Oct. 22

1:13 p. m. — A student reported the theft of two computer systems valued at $1,900 from the Sigma Alpha Mu fraternity house at One Fraternity Way.

Oct. 25

2:11 a.m. — A student reported that a trash can in a Rubelmann Residence Hall restroom had been set on fire.

7:44 p. m. — A student studying in Olin Library reported that a white male, in his late 30s or early 40s, exposed himself.

University Police also responded to three reports of vandalism, five additional reports of theft, and one report of attempted theft.

Crime Alert: University Police, who responded to a case of arson at Wohl Center Oct. 17, ask that faculty, staff and students be alert to suspicious activity, including playing with cigarettes, matches, lighters, fireworks and other incendiary devices. Suspicious persons and activities should be reported immediately to University Police at 935-5555 or by blue light phone. Anyone with information about the Wohl Center fire is asked to call University Police.

Introducing new faculty members

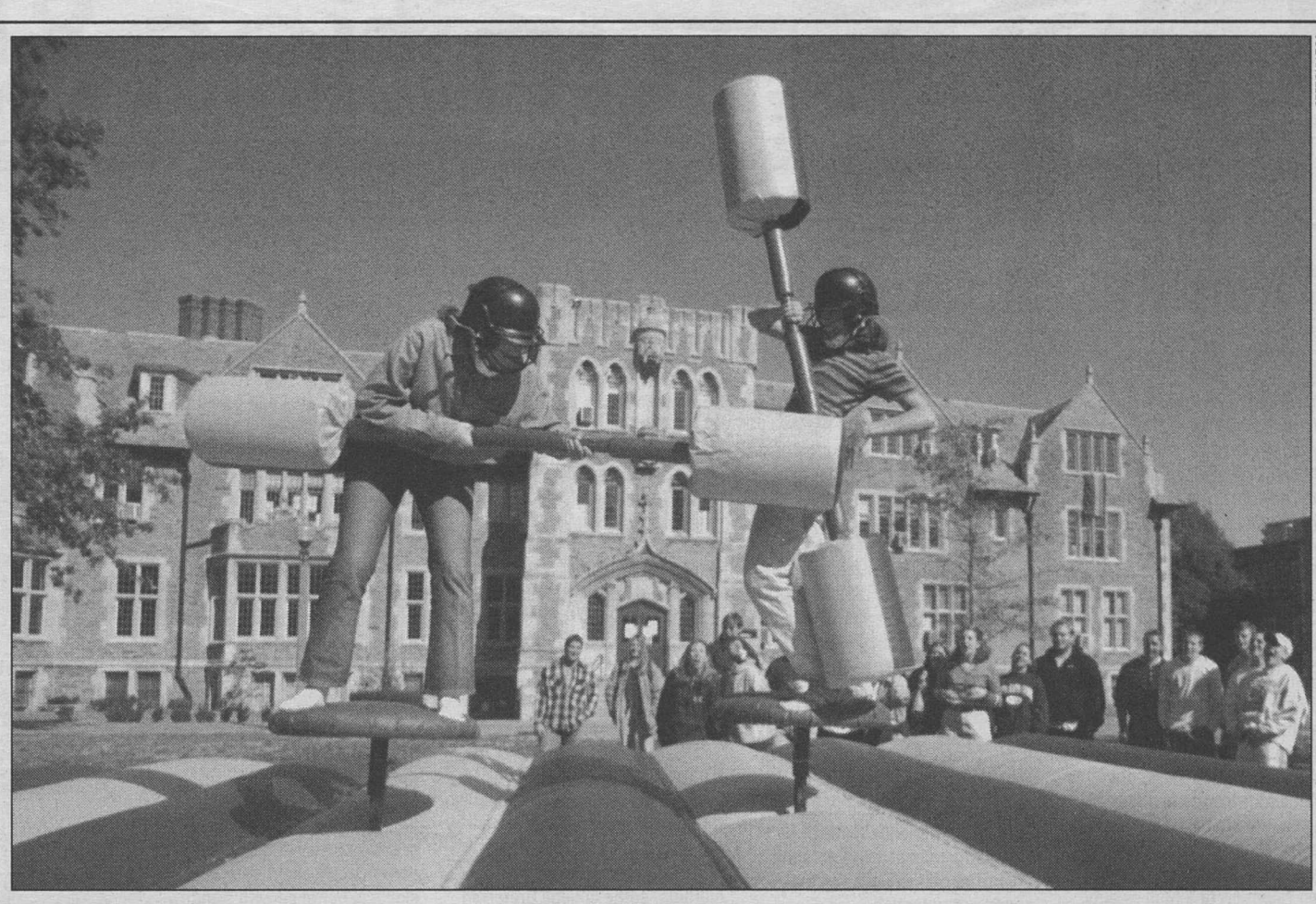
The following are among the new faculty members on the Hilltop and Medical campuses. Others will be introduced periodically in this space.

Susan T. Arnold, M.D., assistant professor of neurology and of pediatrics, joined the School of Medicine faculty in 1994 as an instructor in neurology. As a member of the University's Comprehensive Epilepsy Program, she provides medical care for children with epilepsy, interprets electrical measurements of the brain and evaluates patients for epilepsy surgery. She also co-directs the pediatric neurology resident teaching clinic. Arnold obtained a bachelor's degree in psychology from Wesleyan University in 1984 and a medical degree from Cornell University Medical College in 1988. Her research focuses on the clinical management of epilepsy and treatment outcomes.

Cary A. Caldwell, M.D., assistant professor of medicine, is medical co-director of liver transplantation at Barnes-Jewish Hospital. He arrived at the School of Medicine in 1996 from the University of Michigan Medical Center in Ann Arbor, where he completed his fellowship training in gastroenterology. He currently is a member of investigating teams studying recurrent hepatitis C and acute liver failure. Caldwell received a bachelor of science degree in biology in 1980 from Bates College in Lewiston, Maine, and a medical degree in 1989 from the University of Pittsburgh. He trained in internal medicine at Yale-New Haven Hospital from 1989 to 1992.

Garrett Duncan, Ph.D., assistant professor of education in Arts and Sciences, came to Washington University as a 1996 recipient of a postdoctoral fellowship in African and Afro-American Studies in Arts and Sciences. He earned a bachelor of science degree in biology and a teacher credential, both from the California State Polytechnic University in Pomona, where he was named Distinguished Alumni in 1990. Duncan received a doctorate in education from The Claremont Graduate School in 1994 after an eight-year career as a public school science teacher in southern California. His current research focuses on adolescent language and literacy as these practices inform the moral and political lives of black youth. He is on the editorial advisory board of the Journal of Literacy Research and is a contributor to a recent issue of the Journal of Negro Education that focuses on the education of black children and youth in California.

Eric S. Malden, M.D., assistant professor of radiology and of surgery at the School of Medicine, had been a fellow in the vascular and interventional radiology section at the Mallinckrodt Institute of Radiology (MIR) before receiving the faculty appointments in June 1997. Malden graduated magna cum laude and Phi Beta Kappa from the University of Rochester (N.Y.) with a bachelor's degree in biology in 1988. He was a member of Alpha Omega Alpha at Washington University, earning a medical degree in 1992. An MIR resident from 1992-96, Malden won the 1992 Hugh Wilson Award in Radiology. He studies the cost-effectiveness of interventional radiology procedures, the use of angiography to detect gastrointestinal bleeding and the use of new compounds to visualize the lower extremities.



JOE ANGELES

Wacky Olympics

Sophomore Alexandra Farkouh, representing Kappa Kappa Gamma sorority, puts the finishing touches on freshman Liz Connolly, of Student Union, in the joust event at the Wacky Olympics, held Wednesday, Oct. 22, in front of the Women's Building. The Wacky Olympics were staged in connection with Homecoming activities.

For The Record

For The Record contains news about a wide variety of faculty, staff and student scholarly and professional activities.

Of note

Anne H. Cross, M.D., assistant professor of neurology, has received a three-year $483,137 grant from the National Institutes of Health for a project titled "T Cell Activation and Memory in Murine EAE." …

The David L. Tandy Foundation in Fort Worth, Texas, has renewed its contribution of $1,000 to the **John M. Olin School of Business** for awards in business ethics. …

An article by **Leila Sadat Wexler,** J.D., LL.M., D.E.A., associate professor of law, titled "Application of the Nuremberg Principles by the French Court of Cassation: From Touvier to Barbie and Back Again," was cited by the International Criminal Tribunal for the Former Yugoslavia in its decision convicting Dusko Tadic of crimes against humanity, as well as other crimes. Her article, "The Proposed Permanent International Criminal Court: An Appraisal," was published in the Cornell International Law Journal.

On assignment

Gurudatta M. Parulkar, Ph.D., professor of computer science and director of the Applied Research Laboratory, chaired the Fourth Institute of Electrical and Electronics Engineers' Workshop on High Performance Communications Systems, held this summer in Sani Beach, Greece. About 60 worldwide participants met to examine such topics as Internetworking, quality of service, multimedia, global high speed communication, wireless and mobility, communication middleware, multicast and traffic engineering. …

Russell Roberts, Ph.D., adjunct associate professor in business economics and director of the Management Center, recently moderated a forum sponsored by the Center for Market Processes on whether the United States should renew most-favored-nation status for China. The forum was held in Washington, D.C., for about 50 congressional aides. Panelists were Joseph Cobb, president of the Trade Policy Institute; William Lash, J.D., adjunct fellow at the Center for the Study of American Business at Washington University and associate professor of law at George Mason University; and James Lilly, former U.S. ambassador to China.

Speaking of

Martha Storandt, Ph.D., professor of psychology in Arts and Sciences, gave an invited address titled "What's Aging? What's Dementia?" at the annual conference of the American Psychological Association, held in August in Chicago.

To press

Robert Weninger, Ph.D., chair and professor of Germanic languages and literatures and professor of comparative literature, both in Arts and Sciences, and **Brigitte Rossbacher,** Ph.D., assistant professor of German, co-edited a volume titled "Wendezeiten/Zeitenwenden: Positionsbestimmungen zur Deutschsprachigen Literatur 1945-1995." The volume includes 13 papers given by leading German and American scholars at the 13th St. Louis Symposium on German Literature, hosted by the Department of Germanic Languages and Literatures in spring 1996.

Obituaries

Ray Coil, 79, retired lawyer and professor

Ray Northcutt Coil, a retired lawyer and professor of engineering law in the civil engineering and computer science departments for 45 years, died Oct. 16, 1997, in Cottonwood, Ariz., following a brief illness. Coil retired in 1991 and moved to Sedona, Ariz.

Survivors include his wife, "Pepper" Coil of Sedona; two sons, Richard Coil of Scottsdale, Ariz., and Guy Coil of Champaign, Ill.; a brother, James Coil of Atlanta; and five granddaughters. A memorial service was held Oct. 22 in Sedona.

Campus Artists

The following will be available at the Campus Bookstore in Mallinckrodt Center on the Hilltop Campus. For more information, call 935-5500.

Seasons in Hell

(Albany Records)

***Harold Blumenfeld,** professor emeritus of music in Arts and Sciences*

"Seasons in Hell," a new opera by Harold Blumenfeld, is being released on compact disc by Albany Records on Nov. 1. The disc features a live recording of the opera's February 1996 world premiere at Cincinnati's College-Conservatory of Music.

Inspired by French poet Arthur Rimbaud (1855 to 1891), "Seasons in Hell" follows the literary prodigy's life from his brilliant and protean youth to his eventual abandonment of poetry and final years as a gun runner in Ethiopia.

Blumenfeld points out that, though the likes of Baudelaire, Verlaine and Mallarmé have served as subjects for Debussy and other composers, "the only significant prior treatment of Rimbaud seems to be Benjamin Britten's beautiful 'Les Illuminations,' the persistent sweetness of which has nothing to do with the blood, guts and raw nerve of my poet, literature's Icarus."

Four of Blumenfeld's previous Rimbaud-based works are also available on compact disc. Last year Centaur Records released "La Face cendrée," which in addition to the title work also includes "Carnet de damné," "Ange de flamme et de glace" and "Illuminations: Symphonic Fragments After Rimbaud."

Born in Seattle but a longtime St. Louis resident, Blumenfeld taught in the Department of Music in Arts and Sciences from 1952 to 1989. Blumenfeld says that he and librettist Charles Kondek are currently planning their next work, a "large-scale opera dealing with the notorious Borgia clan."

Opportunities & personnel news

Hilltop Campus

Information regarding these and other positions may be obtained in the Office of Human Resources, Room 130, at West Campus. Job openings may be accessed via the World Wide Web at cf6000.wustl.edu/hr/home. If you are seeking employment opportunities and are not currently *a member of the Washington University staff, you may call our information hotline at 935-9836. Staff members may call 935-5906.*

Admissions Coordinator 980034. *School of Social Work.* Requirements: master's degree required; strong interpersonal, written, oral and presentation skills; ability to plan and prioritize in a fast-paced, high pressure environment. Responsibilities include assisting with all aspects of recruitment and retention of a high-quality, diverse student body; developing and implementing special recruitment and retention programs; reviewing applications for admissions and scholarships; assisting with development and implementation of alumni-in-admissions program; meeting with prospective students; explaining GWB curriculum and policies; assisting in preparation of recruitment material, including developing promotional pieces and coordinating direct mail; weekly, monthly, semester and annual reports.

Director of Computing Technology and Services 980100. *Computer Science.* Requirements: bachelor's degree in computer science; minimum five years experience managing computer systems and networks; thorough knowledge of Unix and NT operating systems, knowledge of Net-BSD and Linux operating systems helpful; thorough knowledge of Unix and NT-based networks including TCP/IP, Cisco Routers and Ethernet switches; familiarity with network management; ability to identify needs for new software tools and acquire or manage development of customs tools; ability to interact effectively with wide range of faculty, staff and students; programming experience in C and/or C++; experience managing system administration personnel or strong evidence of management potential.

Office Assistant 980110. *Social Work.* Requirements: secretarial school or two years of college; two years experience in office setting required; strong computer background, including data entry, Microsoft Office and database; strong interpersonal and telephone communication skills; organizational skills and the ability to accomplish multiple tasks concurrently. Responsibilities include assisting the coordinator for field education in GWB School of Social Work and providing support for students, field instructors and office of field education staff in practicum activities.

Communications Coordinator 980114. *Public Affairs.* Requirements: associate's degree or equivalent experience; specialized computer skills, including word processing (Macintosh), fax modem transmission and database management; general knowledge of desktop publishing; ability to learn new applications; specialized secretarial and business training; one to two years professional experience; willingness to assume responsibility; solid understanding of and commitment to highest professional public relations standards.

University Communications Secretary 980115. *Public Affairs.* Requirements: high school diploma, some college preferred. One to two years secretarial/receptionist experience or training; accurate typing of at least 60 wpm; general knowledge of executive office procedures; excellent telephone skills; willingness to assume responsibility; ability to work well with others and deal effectively with the public; ability to use office computer system for many tasks formerly accomplished on a typewriter or willingness to learn system thoroughly and quickly; solid understanding of and commitment to highest professional public relations standards.

Customer Service Representative 980125. *Telephone Services.* Requirements: high school diploma, some college preferred; strong organizational and interpersonal skills; excellent verbal and written skills; attention to detail; strong follow-up; ability to work with minimum supervision on numerous tasks; excellent computer skills, including Windows applications, WordPerfect or similar word processing software; proficient with telephone and voice mail systems. Must be willing to work overtime occasionally.

Executive Secretary (10-month appointment) 980126. *Comparative Literature.* Requirements: high school education, college preferred; previous university experience; excellent computer skills, experience with Windows 95, FIS, SIS, e-mail and Microsoft Word preferred; office management skills; ability to handle multiple and diverse tasks in an organized, accurate and timely manner; excellent communication skills; attention to detail; proactive, anticipates problems and seeks solutions; ability to work effectively with administrators, faculty, staff members, students and campus visitors; maturity and sensitivity in handling confidential information.

Awards Processor 980127. *Student Financial Services.* Requirements: high school diploma, some college preferred; planning and organizing skills; ability to make timely and sound decisions; well-developed service orientation; team-building skills; initiative; effective oral communication skills; ability to listen actively; excellent written communication skills and ability to tailor writing styles according to varying forms of communication; analytical ability; a talent for creative thinking; ability to work under pressure; adaptability, flexibility, resourcefulness, tenacity and resilience; high degree of professionalism; must possess and appreciate University and department vision.

Library Assistant (part time) 980129. *Business.* Requirements: some college, bachelor's degree preferred; good communication skills; strong service orientation; must be able to understand, interpret and implement a wide variety of policies and procedures; Internet experience desirable.

Medical Campus

The following is a partial list of positions available at the School of Medicine. Employees interested should contact the medical school's Department of Human Resources at 362-7196 to request applications. External candidates may call 362-7195 for information regarding applicant procedures or may submit resumes to the Office of Human Resources, 4480 Clayton Ave., Campus Box 8002, St. Louis, MO 63110. Job openings also may be accessed via the World Wide Web at http://medicine.wustl.edu/wumshr.

Nurse (part time). Requirements: RN or LPN; skilled with IVs; detail oriented; strong interpersonal skills. Responsibilities: assistance with ongoing clinical research study on diabetes prevention and weight loss; calling potential subjects, completing phone questionnaire and explaining study; performing oral glucose tolerance tests; keeping in contact with subjects and reinforcing diet and exercise changes. Position is approximately 8 hours per week.

Senior Accounting Assistant 980521. Requirements: high school diploma or equivalent, college-level accounting courses preferred; three to five years experience in accounting; supervisory experience preferred; knowledge of purchasing and general accounting; experience with spreadsheet and workbook applications; well organized, independent and detail oriented; experience with Focus preferred. Responsibilities include: purchasing and accounting for department and research funds; supervising on-line entry of two assistants; managing and reporting accounts; monitoring account balances; assuring policy compliance; managing travel payments; managing asset records; providing analysis of spending patterns and making recommendations based on analysis; and training, supervising and providing backup for purchasing assistants.

The euro is topic of conference

The euro — and its legal, economic, political and cultural implications of the planned new European currency — will be the subject of a conference hosted by the School of Law and the European Studies Program in Arts and Sciences at Washington University Thursday, Oct. 30.

Associate Professor of Law Leila Sadat Wexler, J.D., LL.M., D.E.A., and Paul Michael Lutzeler, Ph.D., the Rosa May Distinguished University Professor in the Humanities and professor of German and comparative literature in Arts and Sciences, are organizing the conference, titled "The Euro: A New Single Currency for Europe?" to be held at the School of Law.

Joseph H.H. Weiler, the Manley Hudson and Jean Monnet Chair at Harvard University School of Law, will give the keynote address on the "State of the European Union." Other presenters include Luc Veron, senior economist of the Commission of the European Union, in Brussels; Volker Schlegel, chief economist at the German Embassy in Washington, D.C.; and Elke Thiel of the Research Institute of International Affairs, in Munich, Germany.

Attorneys, bankers and economists also will speak.

Douglass C. North, Ph.D., the Spencer T. Olin Professor in Arts and Sciences and a Nobel laureate in economics, will discuss "Europe in the World Economy." John V.C. Nye, Ph.D., associate professor of economics in Arts and Sciences, will address "European Economic Unification in Historical Perspective: The View From the 19th Century."

Other Washington University faculty involved in the conference are Lee Kenneth Benham, Ph.D., professor of economics; James T. Little, Ph.D., professor of finance and economics at the John M. Olin School of Business; Andrew C. Sobel, Ph.D., assistant professor of political science in Arts and Sciences; and Lynne Breakstone, Ph.D., senior lecturer in French in Arts and Sciences.

For more information, call 935-6482.

TMA addressing smog problems — *from page 1*

tered car-poolers, 40 van-pool passengers and 300 registered mass transit users.

The Environmental Protection Agency (EPA) considers the St. Louis area to be a trouble spot for ground-level ozone, a major contributor to smog. Automobiles produce 25 percent of the hydrocarbons that lead to ozone pollution in the region.

Air pollution expert Jay R. Turner, D.Sc., assistant professor of chemical engineering and of engineering and policy, said the impact of high ozone levels on the St. Louis region is not only a health concern, but an economic one.

"Down the road, potential restrictions imposed by EPA could hamper economic growth," Turner said. "This could constrain the expansion of existing businesses or prevent new businesses from locating in the area."

Use of public transportation in the region is on the rise. According to a brochure produced by Citizens for Modern Transit (CMT), a nonprofit rail advocacy group, public transportation use has increased 40 percent. Part of this increase is due to the success of MetroLink, with a daily ridership of more than 40,000 passengers. Plans are now in the works to extend MetroLink's current 18-mile route westward from DeBaliviere Avenue to downtown Clayton. The route would run along Millbrook Boulevard on the northern edge of the Hilltop Campus and is expected to be in operation in 2004.

Late this week and early next week, Washington University faculty and staff members will receive by campus mail a copy of the CMT brochure. The brochure contains a MetroLink map, an explanation of plans for the system's expansion and details about the positive environmental impact of mass transportation.

For more information about the TMA, call 747-0706. —*Martha Everett*

Panel seeks information about grants management — *from page 1*

including a larger number of faculty but also involving staff active in gifts and grants management, financial management and information systems. A special project team will help with this portion of the review. The project team, which is accountable to the steering committee, includes Cicero and 10 administrators who currently provide research support services at the departmental, school or Universitywide level.

"Information gathered through the interviews and focus groups will be submitted to the steering committee in January," said Karen L. Wooley, Ph.D., assistant professor of chemistry in Arts and Sciences and a member of the steering committee. "If a case for change emerges from this review, Coopers & Lybrand and the steering committee will suggest a process by which research support services might be enhanced."

Chancellor Mark S. Wrighton appointed Cicero as the new vice chancellor for research a little more than a year ago. Cicero said that shortly after his appointment, he began meeting with Hilltop and medical faculty, department heads and program directors Universitywide. "The notion for a systematic, faculty-driven exploration of how best to support research activities and manage grants came from those meetings," Cicero said.

Cicero recently brought Andrew Neighbour, Ph.D., to the University as associate vice chancellor for technology management to develop new technology transfer initiatives — that is, strategic, comprehensive efforts encouraging companies to convert the University's discoveries into products and processes the public can use.

In a letter sent to all faculty advising them of the initiative, Wrighton said: "Given the increasing demands on faculty time, the rising volume of grant applications, the intensely competitive environment and the changing expectations and reporting requirements of the many agencies who support university-based research, a review designed to solicit ideas about best possible practices in supporting our investigators and in managing grants and contracts is timely and necessary."

Members of the steering committee and the project team include:

Research Support Services Assessment Steering Committee

Theodore J. Cicero, Ph.D. (chair), vice chancellor for research; **Linda B. Cottler,** Ph.D., associate professor, psychiatry; **Kenneth F. Kelton,** Ph.D., professor, physics; **Denise A. McCartney** (project manager), assistant dean, management services; **Joseph A. McGarry,** senior manager, external reporting; **Jeffrey D. Milbrandt,** M.D., Ph.D., professor, pathology and medicine; **Michael I. Miller,** Ph.D., professor, electrical engineering and biomedical computing; **John C. Morris,** M.D., associate professor, neurology and pathology; **Joel S. Perlmutter,** M.D., associate professor, neurology and radiology; **William G. Powderly,** M.D., associate professor, medicine; **Enola Proctor,** Ph.D., professor, social work; **Richard A. Roloff,** executive vice chancellor; **Benjamin S. Sandler,** vice chancellor for financial policy; **Joshua R. Sanes,** Ph.D., professor, anatomy and neurobiology; **Bill D. Smith,** director, computing and information systems; **John Sprague,** Ph.D., professor, political science; **Bradley T. Thach,** M.D., professor, pediatrics; **Michael J. Welch,** Ph.D., professor, radiology and molecular biology and pharmacology; **Karen L. Wooley,** Ph.D., assistant professor, chemistry.

Research Support Services Assessment Project Team

Theodore J. Cicero, Ph.D.,vice chancellor for research; **Rebecca Evans,** director, gifts, grants and contracts; **William Hunn,** senior applications design manager; **Andrew K. Johnstone,** business manager, biology; **Carol Jones,** departmental administrator, genetics; **Douglas W. Leavell,** manager, sponsored projects accounting and indirect costs; **Rhonda Matt,** research division administration, pediatrics; **Denise A. McCartney,** assistant dean, management services; **Mary M. Vanicelli,** administrative assistant, electrical engineering; **Cynthia White,** assistant director, sponsored project services; **Dorothy C. Yates,** director, sponsored project services.